INTRODUCTION:

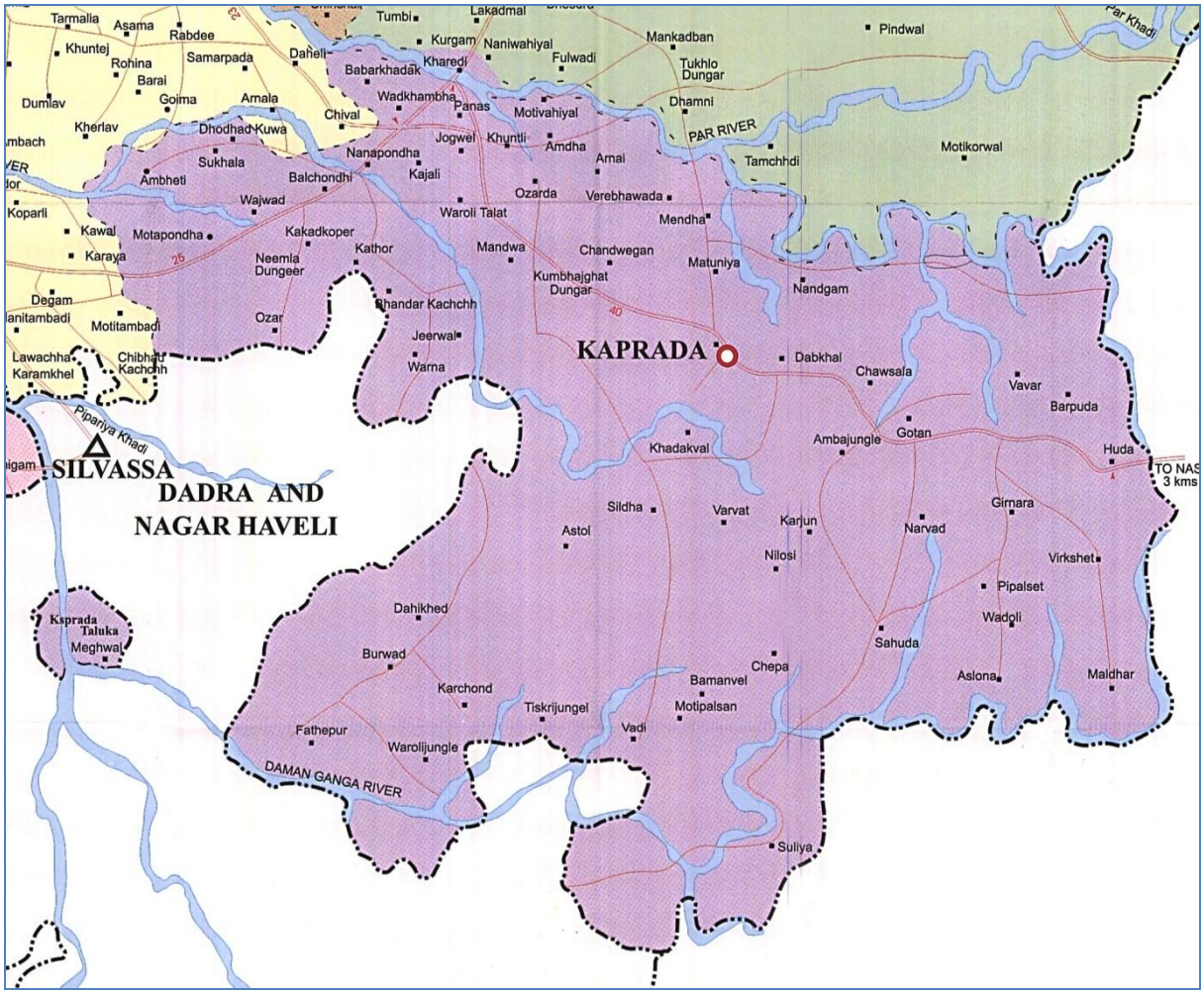
The state of Gujarat is divided into five climatic zones viz., Kachchh, North Gujarat, Saurashtra and South Gujarat. When one looks to the vegetation pattern and flora of Gujarat, it is evident that bulk of forests ecosystem are concentrated in Southern Gujarat due to its unique terrain and topographical aspects combined with well-marked climatic conditions. The ethnic map of Gujarat reveals the presence of 33 tribes inhabiting different forest areas. Even, here also with respect to the ethnic diversity the region of South Gujarat shows more diversity in comparison to other regions. While referring to the floristic and ethnobotanical works on South Gujarat, some notable works that deserves attention are Suryanarayan (1969), R. M. Patel (1971), More (1972), M. J. Desai (1976), Yadav (1979), J. V. Joshi (1981), Vora (1982), Mac (1982), G. J. Contractor (1986), M. P. Bhatt (1987), A. S. Reddy (1987), PradeepKumar (1993), Anonymous (1999-2002), T. G. Gohil (2004), B. T. Shah (2007) etc.

THE STUDY AREA:

Valsad district in South Gujarat is situated in heavy rainfall zone so it is having good biodiversity. Kaprada taluka which is separated from Dharampur taluka in 1997 is not so far studied. Umbergaon is a coastal settlement that has not been scanned since years. These two areas are rich in plant diversity. Our aim is to survey the area on basis of plant diversity and also to find plant's ethnobotanical values.

KAPRADA TALUKA:

The taluka of Kaprada is separated from Dharampur on 15th October, 1997. Its North boundary is shared with Dharampur taluka, North-West boundary with Pardi taluka while East and South East boundary with Maharashtra State and South-West boundary with Silvasa and Dadra and Nagar Haveli. Its geographical area is 936.62 Sq. Kms. and forest area is about 476.58 Sq. Kms. according to State government of Gujarat which is 50% of the geographical area. It shows how the area is rich by plant diversity. Kaprada taluka is having Par, Kolak and Damanganga rivers to keep it green whole the year.



MAP OF KAPRADA TALUKA

Kaparada is divided into two zones – the Talat and the Dungar. Towards the east this taluka has a region where the land bears much dissected and poorer appearance. Deeply furrowed streams and river zigzagging through the low hills are a common sight. The hills and slopes are covered with forest, once dense but a good deal depleted now due to indiscriminate felling. The region is shaped like a plateau has quite a few high hills with lofty peaks. This "Dungar" region is the home to Koknas and the Warlis – two schedule tribes inhabiting majority of the taluka .

The taluka belongs to the Sahyadri hills stretching southwards making the land scape to be dominated by a chain of flat topped hills. Due to basaltic formation the soils are red loam and black soil, which are heterogamous in colour, depth and other characteristics. On

piedmont slopes the soils, red in colour, have shallow sollum depth. Soil fertility in general is not a constraint, but soil erosion is.

UMBERGAON TALUKA:

MAP OF UMBERGAON TALUKA

Umbergaon taluka is situated near Arabian Sea. Its North boundary is shared with Daman (UT) and Pardi taluka, Eastern boundary with Silvasa and Dadra and Nagar Haveli, Southern boundary with Maharashtra state and Eastern boundary with Arabian Sea. Its geographical area is 362.00 Sq. Kms. and forest area is about 43.17 Sq. Kms. which is 12%

of the geographical area. Umbergaon taluka is having Damanganga, Varoli and Kalu (Kalai) river. This taluka is having good mangrove varieties at coastal area. A patch of mangroves, consisting mainly of Avicinia species, lines the mouth of Varoli estuary and a small creek near Umbergaon. Luxuriant growth of Rhizophora is also found there. Mangroves are natural protectors, our first line of defence from natures' fury like cyclones and tsunamis. But now, these unique coastal tropical forest are under threat themselves from unchecked development and land reclamation.

CLIMATE:

The temperature ranges of both taluka between 12^{o} C minimum in winter to 42.8^{o} C maximum in summer. Average rainfall ranges between 1000 to 3000 mm. Period of rainfall is from June to September and sometimes it extends up to October also. Total rainy days in a year are 40 to 45 days. There is Diversity in land region as this area consists of fertile land, forest area and some part is undulating with hills and hillocks. The forest is of moist deciduous type forest.

POPULATION AND COMMUNITY:

The population census as per 2011 reveals the presence of 2,02,862 persons in Kaparada and 2,36,247 persons in Umbergaon Taluka Respectivly. The 05 tribes residing here are those of Dhodiya, Kunkna, Warli, Machhi, and Kharva. The area of Dharampur taluka was previously explored only by A. S. Reddy (1987). The area of Umbergaon taluka was previously explored by G. J. Contractor (1986).

OBJECTIVES:

- To make floristic survey of the area and vegetation pattern of the area.
- Collection of ethnobotanical data, since area has a good ethnic and cultural diversity.
- To find out importance of rare plants and ethnobotanical value of it.
- To preserve the available plants in the herbarium for the purpose of plant identification.

METHODOLOGY:

The study area has been thoroughly surveyed in all seasons to procure maximum collections and their variants. The fieldwork consisted of collection of plant specimens for herbarium, observation on the habit, habitat, phenology and distribution. The herbarium specimens were processed with Mercuric chloride-alcohol saturated solution. All the herbarium specimens are deposited in the herbarium house of B. K. M. Science College, Valsad. Plants were identified mainly with the help of standard floras. The plants were collected season wise and during the collection photographs were taken. Ethnobotanical uses were collected by interviewing elder tribals, local medicine man and also by personal observations. Data on climatic factors, tribal populations, land use pattern etc., have been obtained from district gazetteers, working plans of taluka panchayat, Gram panchayat and other secondary sources.

TOOLS:

Plants were collected by sickle, iron rod, plant cutter, polythin bag. etc. During project camera was used for taking photographs. Field diary was useful in noting important details of plant. Herbarium sheets were useful in preservation of plant.

RESULTS AND DISCUSSIONS:

The intensive and extensive survey of the area revealed the presence of total 830 of species, distributed over 122 families. The break up of statistical synopsis of the flora is as given below: -

Total dicot genera	413
Total monocot genera	103
Total dicot species	633
Total monocot species	197
Total plant families reported	122
Total dicot families	102
Total monocot families	20
Total Ethnobotanical Plants	60
Total Mangrove Plants	9

- During the floristic survey we had find many rare and valuable plants.
- We had also found New Record Plnats for Gujarat Flora during survey.
- Photographs and herbariums of the plants will help to identify the plant in future.

All these results are well documented and presented in the thesis supported with sufficient photographic evidences and latest references. Lastly, it is hoped that this thesis will be of immense help for those working on biodiversity, taxonomy and ethnobotanical aspects.

(Dr. T. G. Gohil)
Head & Research Supervisor,
Biology Dept.
B. K. M. Science College,
Valsad.

(Shri V. H. Rao)
Research student.